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EDITORIAL.

STAMPING OUT PLEURO-PNEUMONIA.—The work of the Bureau of Animal Industry promises good results—now in New York and hard at work—Report of Dr. Salmon showing what has been accomplished up to June 30th—Illinois reported almost entirely free—enormous work of investigation performed by the inspectors—5,351 herds have been inspected, 49,094 animals examined; 4,851 post-mortem examinations made, and 1,044 carcasses found diseased. GLANDERS IN MONTANA.—The usefulness of sanitary reports once more illustrated—they would show the extent of contagious diseases amongst our stock—Dr. Holloway's statement—glanders now spread from army horses and mules sold instead of being killed after being condemned—great want of reform somewhere. UNITED STATES VETERINARY MEDICAL ASSOCIATION.—The meeting is to take place in New York city on the 20th of September—great anticipation of a good meeting. *Another paper for the Prize*—offered and presented in this number.

STAMPING OUT PLEURO-PNEUMONIA.—The work of stamping out pleuro-pneumonia, undertaken under the supervision of the Bureau of Animal Industry, gives fair promise of accomplishing a satisfactory result, and, as we have before had occasion to remark, seems likely to prove to be the means of wholly banishing this formidable and destructive disease from this country. If there is no suspension or diminution of the appropriation, and no interference with the work as it has been recently prosecuted, no one will ever regret the large amount of money our deliverance from the pest will have cost.

The work which heretofore has been carried out principally in the West and in some of the Eastern States, has been recently inaugurated in New York, and though at first the presence of the disease was denied by the same, the officers of the Bureau of

Animal Industry now have their hands full and are hard at work in destroying diseased and infected animals.

A recent preliminary report from Dr. Salmon, Chief of the Bureau, touching the progress of the work as partially accomplished, furnishes us with the means of estimating the amount of labor performed during the six months ending June 30, 1887, and is a very interesting and instructive paper. Taking into consideration the fact that the new rules and regulations which have been issued by the Bureau have been accepted by many of the States and Territories, and that the Legislatures of Illinois, New York, Virginia, and other States have enacted laws conferring full authority upon the officers of the Bureau for the quarantining, condemnation and destruction of all animals exposed to the disease, as well as those affected by it, we can readily appreciate the extent and value of the assistance rendered to the Board and the co-operation they have experienced in the prosecution of their labors.

Certainly those who have charge of the work are enjoying no sinecure in their official positions, as the figures indicate which we extract from the report.

During the six months covered by the report the Bureau has inspected 2,368 herds in Illinois alone, and this number represented 12,361 animals. Of 3,183 post-mortem examinations made, 299 of the subjects were found to have been affected with pleuro-pneumonia. In Maryland 2,406 herds were inspected, 1,253 autopsies made, and 74 animals found diseased. In New Jersey 453 herds were inspected and 284 animals found infected. In New York, so far, 79 herds have been inspected, 987 animals found infected, and 127 reported diseased.

During these six months, then, 5,351 herds, numbering in all 49,094 animals were inspected, 298 herds and 11,628 animals placed in quarantine, and 904 animals found to be diseased. The enormous number of 4,851 post-mortem examinations were made, and 1,044, or nearly one-fourth of that number, were found to be affected with pleuro-pneumonia. If this amount of work does not furnish testimony which ought to be satisfactory to the faithfulness and assiduity of the veterinarians of the Bureau of Ani-

mal Industry, we do not know where to look for it. These figures form the best answer that can be given to those skeptical Congressmen, legislators, and even veterinarians, who some time ago recorded themselves as disbelievers in the existence among our cattle of the bovine scourge of which we are speaking. This, however, is a point of no importance.

If the Bureau of Animal Industry are wisely let alone, the day is not distant when their work will be reduced to the simpler, though not less important, duty of preventing the importation of the disease, the stamping out of which will have absorbed so much labor and involved so heavy an expense.

GLANDERS IN MONTANA.—We have on several occasions urged upon our readers the importance of obtaining monthly or quarterly reports of the existence of contagious diseases throughout the country, and have invited their co-operation and assistance in the preparation of such information. There has been no response to our invitation, though the value and desirableness of these reports are constantly shown by the publications which we frequently find in our agricultural exchanges. We are all informed of the extensive existence of contagious pleuro-pneumonia; we are all aware of the slow but sure progress of tuberculosis amongst our costly herds; and we hear of the occasional outbreaks of anthrax, and so on; and we also hear, now and then, of outbreaks of glanders amongst horses. Of course this latter disease is known to exist, more or less, all over the land, yet communications relating to its mode of multiplying itself are always interesting, and so much the more when we are able to trace the cause or discover the center of infection, and learn how easily its prevention might have been accomplished, to the very great advantage of the horse owners who have suffered needless loss. If we are to accept the communication of the Territorial Veterinarian of Montana, Dr. Holloway, as authoritative, a large number of the cases seen by him may be traced to condemned army horses or mules, which, instead of being destroyed after their condemnation, have been venally disposed of by selling them, contrary to orders, by the persons to whom they were turned over for execution.

If this statement is correct, it is certainly a matter of which the courts, martial or criminal, should take hold of at once and promptly rectify, and our colleagues in the army should see that such villainy—it is nothing less—should be well disciplined. But what can an army veterinarian do, after all, while held in the low position he is now compelled to occupy, and so long as he is denied the rank and position which by right is his?

We append the statement of Dr. Holloway:

The fears that some months since were entertained concerning glanders seem to have been only too well founded. The disease has already made its appearance in nearly every portion of the territory; in fact, only one county (Beaverhead) has thus far escaped, and several cases have occurred so near its borders as the town of Melrose. The truth is, the more we investigate the more we find of it to deal with. Why, only yesterday I found six cases of it in Butte.

In a general way it may be said to be most frequently found along the main route of travel. We are, however, doing much to eradicate it, though the difficulties encountered are many. In the first place, Montana is larger than all New England, which in itself is a matter of much importance; and in the second, the people are not as yet fully alive to the necessity of taking the immediate steps that are necessary to completely squelch the disease. Because in former years they have escaped any serious trouble, they have quite naturally concluded they will be equally fortunate in the future.

In all countries that ever I have seen, there is always more or less of the trouble. Its causes are numerous and very generally understood, but I am quite reliably informed that a great deal may be traced to our military posts. The disease is quite likely to make its appearance where large numbers of horses or mules are kept in stables, such as are required by cavalry regiments or horse-car companies in large cities, without any specific cause. It has several times made its appearance at the forts located in Montana. Horses have been condemned and ordered shot, but the private soldiers to whom the duty was intrusted, instead of obeying orders, would take the animals out to a distance from the post, and instead of obeying orders would sell the animals, or a portion of them, to unscrupulous persons for perhaps five dollars, and they in turn would sell at an advance of five or ten dollars more. If the disease always plainly manifested itself, it could be much more easily controlled. There are many unscrupulous persons who for a few dollars will sell a glandered animal, and in so doing perhaps endanger the lives of a whole herd of animals. I remember one case in which a man sold an old mare suffering from the complaint, and he knew it, with the result of killing four mules that were quartered in the same barn with her.—*Nat. Live Stock Jour.*

United States Veterinary Medical Association.—The next anniversary meeting of the United States Veterinary Medical Association is to take place on the 20th of September, the

third Tuesday of the month, in New York city. The place of meeting has not yet been selected, but will be made known by the special notices sent by the Secretary of the Association as soon as he has been informed by the committee of arrangements.

From what we hear, an interesting meeting may be anticipated, several gentlemen of the Association having been personally requested to prepare papers for the occasion. With these and the reports of the various committees, and principally that of the Prize Committee, the chances are that no disappointment will befall those who will attend.

Another Paper for the Prize.—In referring to the report of the Prize Committee, we will call the attention of our friends and members of the Association to the fact that the paper on "Glanders" which has been printed in the REVIEW will not be the only one placed in competition. We print another to-day. The manuscript was received at a rather late hour, but we hope that even at this time the committee will find opportunity for examination into its merits.

ORIGINAL ARTICLES.

MALADIE DU COIT—DOURINE.

BY A. LIAUTARD. *

(*Continued from page* 203.)

IV. *Diagnosis.*—It is difficult to mistake this disease for any other when its progress and the succession of its symptoms are carefully followed; still, if in the consideration of a case the local symptoms alone are taken into account, error is possible. For example, it is possible, in its inception, to mistake it for a simple exanthemous eruption of the genital organs, the seat of both lesions being the same, and the effect similar upon the visible parts of generation. The exanthematous disease, however, is of a benignant character, and it is followed by radical recovery after two or three weeks.

* Translated from A. Zundel.

The tumors upon the skin may suggest farcy, especially if there is enlargement of the glands and a discharge from the nose resembling that of glanders; but the tumors are not of the cordy kind, and they exist in the dermis of the skin and not under it, unlike farcy buds, which, again, ulcerate readily, and are principally situated on the legs.

V. *Prognosis.*—This is always serious and doubtful; though if there is an early recognition of the disease, recovery is possible. It is generally more serious in stallions than in mares, the disease being usually discovered earlier in the latter, and when they have already been infected, or when the secondary lesions manifest themselves. Authors who maintain the spontaniety of the disease, claim that the spontaneous form is more serious than that which results from contagion.

The prognosis is, moreover, always uncertain; animals very ill may recover, while in others in which the disease seems to be of a mild type, it may rapidly assume serious complications and end fatally. As a rule, the disease always becomes more serious when in an advanced stage than when it is recent.

VI. *Pathological anatomy.*—Besides the local lesions already described, with their symptoms, the vaginal and uterine membranes are observed to be thickened and ecchymosed, and to have assumed a brown or grayish color, while the cavities of these organs contain a quantity of muco-purulent substance, more or less abundant, of either a whitish, yellow or chocolate color, analagous to the discharge which escapes from the vulva during life. In some instances this liquid is present in quantities sufficiently large to distend the uterus to dimensions suggestive of a more or less advanced pregnancy.

In the male there is infiltration of the cellular tissues of the sheath and of the scrotum, the latter becoming transformed into a dense, homogeneous, cartilaginous-looking mass. The mucous surface of the vesicula seminales is at times red or purplish, and contains a thick yellow, purulent-looking matter. The testicles are not always involved in the disease; when they are, there is a degree of atrophy in the middle of the sub-dartoic connective tissue, which is indurated or infiltrated with a yellowish serosity;

while in other cases they are increased in size and their softened tissue becomes of a gray, red or even brown color, and pseudo-tuberculous and purulent cavities have been found in them. The spermatic cord and the epididymis are thickened and surrounded with deposits of yellowish matter, gelatinous in consistency and of hyaline aspect.

These local lesions are often associated with anæmia and a general loss of flesh. The heart and the large blood vessels are flabby, and the blood unctuous and adhesive, with a diminution in the proportion of the red globules. The intermuscular cellular tissue is filled with a yellow, gelatinous infiltration, and the flesh is soft and easily torn. Serous infiltration, and at times indurations, are found in the subcutaneous cellular tissue. The neurilema of the large nervous trunks of the paralyzed legs contains tumefactions, and these are surrounded by a thick infiltration. In many cases there is also infiltration over both the spinal marrow and the encephalon, and the whole cerebral and spinal mass is more or less softened. There is a loss of transparency in the arachnoid, and sometimes a large accumulation of serosity is found in the sub-arachnoid space.

For the cause of the metastatic diseases which are found in the testicles and the lungs—more often in the latter—we know we must look to the lesions of complication, such as the articular manifestations, or those arising from purulent infection.

VII. *Etiology.*—We have already said that the disease is only seen in breeding animals, and that it is communicable only by the act of copulation. In districts where it appears it is therefore generally easy to trace the infection of the mare to the stallion by which she has been covered. And reciprocally, a healthy stallion may in the same manner derive the disease from an infected mare.

Nothing positive is known as to the spontaneous development of this disease, and it cannot be ascertained with any degree of assurance whether the abuse of the genital function of the male, or the existence of a vaginal catarrh in the female, can be considered as occasional causes. There are authors, like Haubner, who admit that it might arise from a chronic affection of the

vagina, from leucorrhœa, the sequellæ of parturition, or the like, and in this manner originate in some form of special infection, possibly of the cryptogamic kind. Those who adopt this view of the matter seem evidently to have confounded the true dourine and its causes with the mere benignant exanthema of which we have spoken.

It cannot be confidently said whether the disease exists primarily in the stallion or in the mare, though it is quite certain that it has been imported into many countries by stallions recently purchased, and communicated by them to the mares they have served, which latter have, in turn, infected other stallions.

The most rational hypothesis is that which includes dourine with other contagious diseases, in which the theory of spontaniety is unknown, and accepts the sexual contact as the only method of propagation known to its history. Nothing is yet known of the specific action of the product of the secretion seen in the disease, nor of its virulent properties. The virus has a fixed character, and the principal vehicles of contagion are the products of secretion of the urethra in the male, and of the vagina in the female. The matter of contagion is more active than that of the virus of many other contagious diseases; from one-third to one-half of the mares covered by a sick stallion being liable to contract the disease, and the contagion from the male to female being no less dangerous, and it preserves its contagious quality for a long time, and quite beyond the time of recovery. Haubner believes that the virus may retain its force for a year or more.

The disease is inoculable, though experiments in this respect have not always succeeded (Hertwig); virulent mucus must be used, inoculations with the blood having proved negative. It is also transmissible by contact; diseased mares may convey it to healthy ones if contact of the genital organs is possible; but cases of this description are rare. It is only by this kind of contagion that the appearance of the disease in colts (Weber, Jessen, Maresch) and even in geldings (Hayne, Dayot) can be explained. Manipulations by hostlers in cleaning with soiled sponges, for instance, have been a means of contagion (Haubner). These occurrences are, however, all exceptional, and copulation must be un-

derstood and accepted as the obvious and principal means of infection.

The duration of the incubation varies from eight days to two months, according to Maresch, and even longer according to Haubner.

Whether it is communicable to other domestic animals has not been observed; the equine and asine species alone are known to be subject to it. We may remark, however, that persons employed in the care of diseased animals have at times been known to suffer with an eruption on the hands of little vesicles, forming small superficial ulcers, which, however, healed rapidly, and seemed to possess no specific character, but rather to be of the same nature as those likely to arise from any septic contact.

The heredity of dourine has been affirmed by Rodloff and Jessen. The march of the maladie du coit, as an epizootic, is no less singular than its movements in the sporadic form. Its invasion always occurs during the breeding season, or through the months of April, May and June, when the first cases are observed, though a few late cases may occur in July and August. The following year it appears on a larger scale, but towards the third year it diminishes considerably, or may even quite disappear—nearly always, however, to reappear in another locality in the neighborhood of the first invasion (Lafosse). This habit is due to transmission of the disease by displacement, and might be prevented by suitable sanitary precautions.

VIII. *Treatment.*—Hygienic measures are of essential value in the treatment of dourine. Rich and healthy feeding, healthy and comfortable stabling, protection against extremes of heat and cold, good bedding and cleanliness, are all most essential.

In mares, when the inflammation is acute, tepid mucilaginous vaginal injections are indicated, to be subsequently replaced by aromatic and even astringent applications, such as preparations of sulphate of zinc, permanganate of potash, alum, carbolic acid, etc., with a view to soothe the inflammation and stimulate the cicatrization of the erosions.

In cauterizing such of the ulcerations as can be reached, sulphate of copper and nitrate of silver are to be preferred to preparations of corrosive sublimate.

In stallions, the local treatment is of course more difficult than in mares, from the fact that the sheath must be fomented and frequent injections made in the urethra. General treatment is of course necessary, especially in the stallions. Balsamic diuretics, such as turpentine in doses of one or two ounces, and drenches of creasote water, or carbolized or tar water, will act most efficaciously upon the urethral or vaginal catarrh; camphor and assafœtida, though recommended by some writers, has a less direct action.

Tonics have given the best results. Trelut has recommended hashed meat and fibrine from the blood; Rodloff prefers ferruginous preparations. Arsenic has acted very favorably in the hands of Trelut, who gives it in large doses, while we prefer to use it in small doses. Roell is in favor of nux vomica, and, with Strauss, the preparations of cinchona proved satisfactory. Alteratives, such as preparations of iodine or mercury, seemed to do harm, as have also sedatives, such as tartar emetic. External counter irritants have been recommended, including setons on the loins and hind legs, blisters, and the actual cautery. But to a debilitated patient all these do more harm than good. We would expect better results from dry frictions all over the body, through their general tonic and stimulating effects.

Much empiricism has no doubt characterized the treatment of maladie du coit. Too much thought has been bestowed on an unnecessary attention to the treatment of isolated lesions, and for this reason we object to the too complicated treatment of Rodloff. At the same time, it would not be wise to ignore the indications that necessarily present themselves in the appearance of mammitis, orchitis, abscesses, large infiltrations, or cutaneous ulcers, all or any of which the surgeon is liable to encounter.

IX. *Sanitary police.*—All old mares of a cachetic habit, with a discharge of suspicious nature from the vulva, as well as any stallion having sores suggestive of dourine, must be excluded from breeding purposes until their ailments are radically cured.

Veterinary inspection of all stallions in districts where the disease exists is an essential measure, and in such districts the covering of mares ought not to be permitted except between

males that have been inspected weekly and females known to be healthy at least three or four days before the act of copulation.

Breeders ought to become well acquainted with the disease, and should be enjoined to report to the proper authorities all cases coming to their knowledge. The animals reported should be strictly isolated, and persons in charge of the sick horses should have as little contact as possible with healthy animals.

The sale of breeding animals should be prohibited, and even when cured they ought to remain under careful watch until a satisfactory period has elapsed.

A recovered mare, even if her attack had been of the mildest form, should be excluded from breeding for a year after her recovery. Stallions ought not to be used for two or three years after apparent recovery.

Castration has been recommended. This has sometimes interrupted the spread of the disease, even in animals already presenting symptoms of paralysis. The success or failure of castration will be determined by the extent to which the general disease has affected the patient, as well as by the absence or presence of local lesions in the genital organs at the time of the performance of the operation. The sale of castrated animals ought not to be allowed until complete recovery can be fully certified.

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ETIOLOGY OF SCIRRHOUS CORD, FISTULA AND ABSCESS OF THE SCROTUM.

"CHAMPIGNON," (*Fr.*); "SAMENSTRAUGWUCHERUNG UND SAMENSTRAUFISTEL" (*Ger.*); AND PROPHYLAXIS OF THE SAME.

By "Trianon."

(In competition for Prize of the United States Veterinary Medical Association.)

Although only a tyro in the veterinary profession, I have often been confused by the conflicting theories of the various authors on the above named subjects.

Prof. Williams, in his "Principles and Practice of Veterinary Surgery," (chapter on "Castration," page 649), says: "Scirrhus of the cord arises from castration with the caustic clam, when the operator has neglected, while removing the clams, to separate the adhesions which always take place between the cord and the lips of the wound; from castration with the actual cautery, when the cord has been left too long, or when the cremaster muscle has suffered from some debility, and the extremity of the cord has remained in contact with the wounded scrotum, or has slightly protruded beyond the opening; and in order to prevent scirrhus of the cord, it is necessary when the operation is performed by the clam, that the operator should introduce his finger into the wound and gently separate the cord from the scrotum by tearing the adhesions asunder and pushing the cord upwards toward the abdominal ring."

In reference to chronic suppuration, or fistula of the scrotum, Prof. Williams says:

"I have frequently met with cases of a chronic induration of the cord, seemingly arising from the same cause as champignon, namely, adhesion to the scrotal wounds, in geldings of various ages. In such the cord is hard, and enlarged within the scrotum, and from time to time suppuration occurs within its substance; abscesses form and discharge an unhealthy purulent matter. The formation of these abscesses occurs periodically, and may be induced by very trivial exciting causes, such as a common cold or a

hard day's work; the cord then inflames, the animal becomes lame, stiff, feverish, and unfit for work, and will occasionally remain in this condition for several weeks after the abscesses have discharged their contents."

Prof. Liautard, in his work, "Animal Castration," refers to the causes of champignon as follows:

"The causes from which it originates are obscure, and cannot be very well defined; still, they may be arranged under the heading of any of the morbific causes which may excite an excess of inflammatory action at the end of the cord. Amongst these may be enumerated all violent tractions upon the cord at the time of the operation; all unnecessary manipulations during the process of cicatrization, such as the too frequent introduction of the finger into the wound with destruction of the granulations already adherent to the cord, and the application of the appliances for its division too low down upon it, leaving that organ hanging too much, and the retraction of the organ being insufficient to retain it in the inguinal sac; still, as a champignon may be developed in the absence of all these causes, it would seem that their growth may be attributed also to some specific idiosyncrasy in the animal affected, the true nature of which cannot be very accurately or easily understood.

"It is held, however, by certain German and Russian authors, that exposure to cold exercises a great deal of influence in the development of this affection, and observation has largely established the fact of its greater prevalence during cold seasons."

In regard to abscesses of the scrotum, Prof. Liautard says:

"When these are likely to result from a too rapid closure of the edges of the scrotal envelope, the premature union may be readily prevented, as we have before stated, by the careful introduction of the finger into the wound while it is still suppurating.

"But notwithstanding this precaution, they will sometimes occur as the result of the infiltration and accumulation of the suppurative matter. A free incision and proper attention to the cavity of the abscess is all that this accident requires.

"A careful examination of the parts will, however, reveal another cause for the formation of these abscesses. It is, then,

against these causes that the therapeutic treatment must be directed."

Of fistula of the scrotum, Prof. Liautard says: "Being already aware of several causes of this complication of the operation of castration, we may readily appreciate the treatment they require; it must be remembered that in a majority of cases the cause of this lesion is the presence of a foreign body in the wound, and that until it is removed it is in vain to look for a cure."

Prof. Smith, in his lectures on the diseases of the scrotum, says:

"These can generally be traced to some diseased condition of the spermatic cord, the result of castration, as scirrhus cord, abscesses, fistula, etc. Scirrhus cord may come in two or three weeks after castration, or it may come years after the operation. Abscesses may be caused by a foreign body, or may be due to the scrotum closing up before the cord is completely healed; matter is formed at the cord, it becomes dry, sets up irritation and results in an abscess; and when due to this it generally appears about three or four weeks after the operation, and it may be due to the incision not having been made large enough; so I again recommend a pretty large incision. It may come from a small piece of iron remaining in the wound, if actual cautery has been used, or it may be due to a ligature setting up irritation, and the ligature should be left long, so it can be removed.

"Abscesses generally seriously interfere with the condition of the animal; should be opened freely, but may form again and again."

In the *Deutsche Zeitschrift fur Thier-Medicin und Vergleichende Pathologie*, of May, 1886, Prof. Dr. Albert Jehne, of the Royal Veterinary College in Dresden, Germany, claims to have discovered a micro-organism in several scirrhus cords that were removed from horses at the clinic of the above named college; and he also says that he found the same organism in a tumor taken from the breast of a horse, said tumor having developed in an interval of about six months.

And in the same article Prof. Jehne states that he submitted

parts of one scirrhus cord to such prominent pathologists as Prof. Dr. Robert Koch, of Berlin; Prof. Ferdinand Cohn, of Breslau; Dr. Zimmerman, of Chemnitz; Dr. Huppe, of Weisbaden, and Prof. Dr. De Bary, of Strasburg, for examination, and in their conclusions these eminent men differ, some having failed to find the suspected organism.

I have several German authors on veterinary surgery in my possession, whose views on the above named subjects are substantially the same as those advanced by Prof. Williams.

Farmer Miles, the world-renowned castrator, in an answer to a letter from me, as to what caused the difficulties, attributes th cause to "improper surgery."

Having made the castration of cryptorchids a specialty during the summers of 1884–5, an occupation which brought me over an area of several States, I consequently came in contact with a great many veterinary surgeons and gelders, and was often asked to give my opinion as to what caused the difficulties. I would enumerate the probable causes, such as I had been taught, and the disapproval with which these theories were often met convinced me that the real cause was yet in obscurity.

That the trouble was not caused by the caustic clams I was convinced of in the State of Virginia, where innumerable colts are castrated annually with them, and are turned out to pasture as soon as the operation has been performed. The clams are allowed to remain on until they slough off, and from careful observation I am satisfied that the colts thus neglected are not any more prone to the affection than those that are well cared for, and I believe the theory is a mere supposition of the authors who have advanced it, and not a fact that has been substantiated by experiment or careful investigation.

As to whether or not the difficulties are caused by the actual cautery, I cannot say, as that barbarous method of castration is not practiced in the United States, to my knowledge.

As to the affections being caused by an organism, I can neither affirm nor deny, as I received the information too late in the season to make an investigation; but I do believe that if an organism does exist, it is only secondary.

That the difficulties can be produced independent of caustic clams, actual cautery, and ligature, can be seen by a tabulated list of experiments that I made with the *ecrasseur* on twelve colts during the summer of 1886. When I began these experiments I expected to produce nothing but scirrhus cords, but the result was fistula and abscess of the scrotum in some of the cases, although scirrhus cord predominated; and each cord had an abscess cavity, either in its center or near its posterior part. I would also state here that in all scirrhus cords that I have had occasion to remove, the results of work done by myself or other men, in each and every case I have found a pus cavity.

While dissecting a scirrhus cord of recent origin, in June, 1885, one in which the membranes of the vaginal sac were discernable, I discovered that the trouble was caused by a foreign body, such as blood pus, etc., being retained in a sac at the posterior part of the cord, the sac being formed by an inversion posteriorily (from the action of the cremaster muscle) of all that portion of the tunica vaginalis reflexa remaining uncut anterior to the fold band or septum, that is formed by the two serous coverings, in their connection with the tail of the epididymis; said inversion being favored by the breaking down of the cellular tissue connecting the tunica vaginalis reflexa to the infundibuliform fascia; the foreign body contained in this sac sets up an irritation which converts the serous membrane into one of a pyorganic nature.

It is a well authenticated fact that the best results in castrating the horse are obtained by dexterously making a large incision; but why the best results are thus obtained, has to this day remained empirical.

In conclusion, I would say: in order to prevent the difficulties, a large incision should be made not only through the scrotal tunics, but also through the serous envelope, or preferably include the latter with the cord in the ecrasseur, and amputate the whole above its connection with the tail of the epididymus, which obviates the receptacle for blood pus, etc., and insures perfect drainage.

Being thus prompted by my discovery, I determined to experi-

ment, and prove, if possible, whether I had found the right cause or not. The result was as follows:

Experiment No. 1.—May 10th, 1886, I castrated a native-bred colt, one year old; removed the left testicle properly; on the right side I left the posterior part of the tunica vaginalis reflexa uncut, broke down the cellular tissue between aforesaid tunic and infundibuliform fascia; inversion was complete; the wound on the left side healed up readily; right side did not heal; scrotum and sheath remained swollen; colt walked with a stiff gait; fell off in condition; there was a fistulous discharge from the wound until July 12th, 1886, when I removed the diseased cord, after which the wound healed up and the colt improved in condition at once.

Experiment No. 2.—May 10th, 1886, I castrated a native-bred colt, one year old; operation similar to that on No. 1, but result was different; both sides healed about the same time; scrotum on right side remained swollen; sheath would swell while colt was kept in stable; colt throve well. July 8th, 1886, I removed cord, enlarged and scirrhus, about the size of a goose egg; wound healed nicely; no enlargement left.

Experiment No. 3.—May 12th, 1886, I castrated a trotting-bred colt, one year old; made incision so as to produce the difficulty on left side; the result was a scirrhus cord the size of a hen's egg, which I removed June 19th, 1886, at the urgent request of the owner, who was anxious to have his colt right; scrotum and sheath were somewhat swollen until after the wound healed from the second operation.

Experiment No. 4.—May 15th, 1886, I castrated a grade percheron colt, one year old; operation similar to the preceding one; both wounds healed up; scrotum swelled considerably, and remained so; walk was somewhat stiff in hinder extremities; removed cord July 25th, 1886; it was scirrhus and enlarged, about the size of a goose egg; tumefaction of cord extended up into inguinal canal; could not remove all; colt has done nicely; no perceptible enlargement left.

Experiment No. 5.—May 16th, 1886, I castrated a native bred colt, two years old; a flanker or inguinal cryptorchid; made

incisions so as to produce the difficulty on both cords, and did it successfully. Scrotum and sheath swelled up very large; wound on left side did not heal; a fistula formed which discharged continually until August 4th, 1886, when I removed both cords. On the left side which had the fistula I found two lumps about the size of a walnut; on the right side three similar lumps, all of a scirrhus nature, and each one containing a pus cavity.

On Sept. 1st, 1886, I was called to attend the colt, the owner saying that he was suffering with sore eyes. Upon arriving at the stable I found my patient to be affected with tetanus. An examination of the scrotum revealed that the right side had healed and the left side was still discharging pus. I enlarged the opening with a lancet, bathed the parts with warm water, inserted a sponge saturated with fluid extract of belladonna into the wound, and by the free use of morphine internally I succeeded in rescuing my patient from the grasp of the disease. The wound healed up nicely; sheath continued swollen for some time, during which the colt walked with a straddling gait. Swelling gradually disappeared, and the animal is all right, with the exception of a pair of bog spavins, which he contracted one night in his struggles to get up while suffering with tetanus.

Experiment No. 6.—May 19th, 1886, castrated a native-bred one-year-old colt; produced scirrhus cords on both sides, about the size of duck's eggs. Removed them August 5th, 1886, after which the wounds healed nicely, and at present the scrotum is as smooth as can be wished for.

Experiment No. 7.—May 20th, 1886, castrated a grade percheron colt, one year old; made short incisions on both sides. Wounds healed nicely; scrotum and sheath were swollen some, a few days after the operation, and continued so until the latter part of June, when the swelling began to increase. On the 5th of July, 1886, the right side of scrotum opened spontaneously, from which, the owner said, a vast amount of pus escaped. Swelling then receded considerably; right side healed up in about four weeks. On Sept. 21st, '86, I removed the left cord, which was enlarged and scirrhus; there was no perceptible enlargement on the right cord at that time, nor has any appeared since.

Experiment No. 8.—May 28th, 1886, castrated a grade Clydesdale colt, two years old; produced two scirrhus cords, which I removed Sept. 11th, 1886; cords were about the diameter of a goose egg; scrotum was considerably swollen, but did not seem to inconvenience the animal in any respect. Could not remove the whole of the enlargements, as they extended up into the inguinal canal.

Experiment No. 9.—May 28th, 1886, castrated a grade Clydesdale colt, one year old; produced scirrhus cord on right side, which was very globular in form; scrotum and sheath were swollen some. Removed the cord September 11th, 1886, with good results.

Experiment No. 10.—June 4th, 1886, castrated a native bred one-year-old colt; produced the difficulty on the right side, which I removed on September 15th, 1886; the cord was as large as a man's fist; the sheath was somewhat swollen, but did not seem to inconvenience the colt otherwise.

Experiment No. 11.—June 4th, 1886, castrated a native-bred one-year-old colt; wounds healed up nicely. About four weeks after the operation the scrotum and sheath began to swell and reached an immense size; colt could hardly walk. My attention was called to it on July 18th, 1886. I opened the scrotum with an abscess lancet, which allowed the discharge of considerable pus; swelling went down, and wound healed again. On August 15th, 1886, I was called to attend the colt again. This time I removed an enlargement, about the size of a hen's egg, from the end of the cord; colt improved nicely after the last operation.

Experiment No. 12.—June 24th, 1886, castrated a native-bred one-year-old colt; wounds healed up nicely, and colt seemed to do well until the latter part of August, when he became unthrifty, and tucked up in the flank; scrotum and sheath swollen so badly that he did not care to move; had to be fed in stable. On Sept. 2d, 1886, I proceeded to operate on him but could discover nothing but a large abscess cavity, which I opened well, and the colt made a rapid recovery.

I would state here that in making these experiments, which were of much detriment to my local reputation, I was not blind

to the fact that it might take some time to regain my lost laurels; but, now that I am convinced of the great and only cause of these difficulties, I feel that my efforts will be more than appreciated by the veterinary profession.

THE ETIOLOGICAL MOMENT IN AMERICAN SWINE PLAGUE.

REPORT OF THE WORK DONE IN THE LABORATORY OF THE STATE UNIVERSITY OF NEBRASKA FOR THE EXPERIMENTAL STUDY OF CONTAGIOUS AND INFECTIOUS ANIMAL DISEASES.

(*Continued from page* 170).

Roloff says:

"The surface of the large intestine presents large brown-red spots in many places, in which one can see many delicate and injected-blood vessels, as well as ecchymoses of variable dimensions. Other portions of the serosa are of a diffuse red color, while others are yellowish, and still others quite pale. The serosa retains its normal lustre upon the slightly reddened, or pale portions, while it is clouded upon the brown-red parts; the latter are sclerotic."

Here comes the interesting part of Roloff's observations. He says further:

"The ileo-cœcal valve extends into the lumen of the intestine as an elongated, dense, cylindrical body. The surface of this portion of the intestine is of a leaden or slate color, its continuity being interrupted by numerous small indentations or openings of the size of a pin's head; the crown of the valve is generally ulcerated or eroded.

"The mucosa of the cœcum in the vicinity of the valve is very uneven and of a grayish-black color in many places; the same also presents many clefts in its surface. The intermediate mucosa —between these grayish-black places—is generally slate colored, clouded, and presents a very irregular surface, while some parts appear comparatively normal. The same changes are also to be found in the posterior part of the cœcum. Here one sees round or oval elevations, varying in size from that of a ten cent piece to that of a quarter of a dollar, which have a black or grayish-black

color, becoming paler towards the peripheries; their surface is marked by clefts and irregularities. Their thickness diminishes from the center towards their peripheries. The superficial tissues are very dry and firable in the middle of these objects, but become more moist and more consistent on their outer confines. Smaller and less prominent productions may be seen in the vicinity of these larger ones. These pathological productions frequently coalesce and form large pockets, or come in close proximity to one another. Their locaition upon and in the mucosa corresponds to the sclerotic, injected, and circumscribed parts of the serosa previously described."

That the above description exactly corresponds to pathological phenomena found in the large intestine in American swine plague is beyond all question.

There is no question that Roloff was probably more intimately acquainted with the lesions found in different porcine diseases in Germany than any other man that has ever written upon them.

Detmers wrote to him with reference to the above lesions in German and American swine plague and received the following answer:

"The ulcerous tumors in the cœcum and colon are not found in German swine at post-mortem examinations of hogs that have been affected with swine plague."—p. 157, Report 1880.

The question is, was Roloff right, or do they really occur in two essentially different diseases?

In a series of articles in the *Berliner Klinische Wochenschrift*, 1886, No. 44, 45,46 and 47, Hueppe (one of the most noted authors on pathogenetic micro-organism in Germany) has taken the etiology of the German swine plague into consideration and promulgated views of generalization which I can scarcely think warranted by existing facts.

The articles in question are upon the "wildseuche," a peculiar infectious disease that attacks the deer tribe and cattle and swine, under natural conditions, but not sheep, and which has been transmitted to horses and the smaller animals generally used in experimentation.

The Germans speak of the deer as "wild," and, having no

English word to express the meaning, I shall use the word "wild-seuche" in the following pages. Hueppe's hypothesis with reference to the German swine plague will be found to be equally applicable to the disease in this country should his conclusions be finally supported by clinical, field and experimental evidence, which I am very much inclined to doubt.

Of the micro-etiological organism of the "wildseuche," Hueppe says:

"The bacteria appear as short rods—stabchen—in the blood, being two to three times as long as broad, and have distinctly rounded ends, markedly colored poles, and a clear uncolored middle piece; four of these objects correspond to the diameter of a red blood-cell.

"Upon cultivating this organism, in gelatine, they appear as isolated colonies, or they coalesce and form a grayish-white line, according to the quantity of material introduced on the wire. The edges of the canal are formed by the finest of isolated colonies. On the surface of the gelatine, which never becomes fluid, is formed a circumscribed growth. Their development upon agar agar is similar, the color being more of a grayish-white. Upon blood serum they form a white, transparent, opalescent coating. In boullion, a cloudiness first occurs, followed by the precipitation of the objects to the bottom of the vessel, where they form a greyish-yellow mass."

Having given the above description of the nature of the organism of the "wildseuche," Hueppe says: "I look upon the vegetative form of this organism, in cultures and in the blood, as resembling cocci, according to their stage of development, [and also as to whether one sees them end on or not—B.] they present themselves to the eye, as round, or slightly elongated, elipsoid bodies, which take up the coloring material in all parts of the body.

"This form soon extends itself to a shorter, or longer, object, with distinctly rounded ends. The plasma of these short objects differentiates within the capsule, and isolates itself at either pole before fission takes place, while the capsule still retains the form of the short rod. It finally separates into two young roundish

cells. According to the rapidity of growth and the age of the culture, numerical relations of the different morphological appearances of this organism may vary, sometimes one form and then another predominating in the cultures. I have seen the short roundish homogeneous coloring rods in the blood of animals. They do not group themselves into chains or zooglea masses.

"The vegetative form must be looked upon as the coccus form of this organism, which does not suffer any material change of definition when we now and again find a somewhat longer rod—like forms—and we must therefore credit this organism to the species micrococcus."

Hueppe's language is certainly as ambiguous and contradictory as that of the somewhat notorious Dr. Salmon with regard to the numerous objects which he has claimed to have seen and described as the cause of swine plague in this country.

To call the mature micro-organism, as described by Schuetz, Detmers and myself, a "micrococcus" because it passes through a coccoid-form in its developement, or has such a form in an embryonal condition, is as physiologically logical as it would be to call an ovum a man.

The two objects bear an equally exact relation to their respective mature forms.

In the earlier days of bacteriological research we described cocci as round, dipplo, oval, or oblong or sterpto cocci, according as they presented themselves to the eye of the observer, *but I defy any mortal human*, with honest eyes, and what is more rare, a logical and honest brain, *to make a "micrococcus" out of "bacteria which appear as short rods* [stabchen] *being two to three times as long as broad, and which markedly colored at the poles with a clear middle piece.*"

It was, as has been already said, a practical stroke of genius when the greatest of all pathogenetic bacteriologists, Robert Koch, relieves us of much difficulty by classifying the micro-organisms as:

1. Cocci—Absolutely round objects—not spores—that color homogenously throughout.

2. Bacteria—Oval organisms, the logitudinal diameter of which exceeds the transverse.

3. Baccilli—rods.

4. The twisted organisms.

Now, here comes Hueppe, a most prolific author and accredited observer, and throws the whole question into such chaotic confusion, that we can no longer make ourselves understood by a single word, but must add a detailed description, in such case, in order that other observers may comprehend our meaning, especially when referring to past work.

In his opening remarks upon morphology of the micro-organism of the "wildseuche," Hueppe distinctly says that "Im Bluterscheint ein grosser Theil der Bacteria als Kurzes Stabchen, welches 2 bis 3 mal langer wie breit ist," a translation of which has been already given, but repeated reads, "in blood a greater part of the bacteria appear as short rods—stabchen—which are two to three times as long as wide."

How in the name of logical honesty, any intelligent and educated observer can transform an object "two to three times longer than wide" into a "coccus," or call it a "short rod" in one place, and then say that the same object should be called a "micrococcus," ("Wir mussen die bakterien der gattung mikrococcus zuweisen") passes my comprehension.

Hueppe certainly understands the use of his own language, and I have no very insignificant knowledge of the same, yet in either English or German it is a contradictio ad absurdum to say that a "stabchen" (a short rod) is a "micrococcus" or round object.

No person with a grain of common sense can make a micrococcus out of this object, nor would any competent observer attempt to define or classify a matured object by any intermediate stage in its existence.

It would be equally logical and scientific to call the enpupped and comatose chrysalis a butterfly!

Hueppe then gives the approximate measurements of the micro-organisms of the wildseuche, "German swine plague," and "rabbit septicæmia" and then makes (to my mind) the following absurd assertion:

"Even though I admit that the evidence is not complete, still,

so far as my conclusions can be based upon biological studies, I must conclude that the "wildseuche," "schweineseuche" and probably "rabbit septicæmia" and "hen cholera," are only differently appearing forms of one and the same infectious disease—the "wildseuche" or "septicæmia hæmorrhagica," as he technically calls it.

Admitting what I know to be a fact, that the "wildseuche" occurs in deer, cattle and swine, and at the same time admitting that it can and does occur in one or the other of these species and not necessarily in the others; admitting also that the "wildseuche" is accompanied by pneumonia and enteritis; admitting that it can be artificially transmitted to rabbit, fowl, etc., and even to horses; admitting that no essential differences exist in the morpho-biological developing phenomena between the micro-etiological organism and that of the German swine plague, still it does not justify Hueppe's conclusion that the "wildseuche" and that disease are identical, any more than it would that the "wildseuche" is identical with the American swine plague for the same reasons.

Unfortunately, or perhaps fortunately, we do not know whether we have the "wildseuche" among our deer or not, or even among our cattle and swine.

Anyone who has read my description of that singular outbreak among cattle at Crete, Neb., must certainly have become convinced that I had to do with a very wild—in the English sense—disease, also that there was not a single lesion present of either the "wildseuche" or our swine plague, yet the micro-organism previously described, found in the tissues of these animals, will fill the identical requirements of Hueppe in nearly every morpho-biological particular; but no person would think of claiming that that disease was either the "wildseuche" or swine plague. The almost absolute morpho-cultivatio-biological identity between Schuetz,s bacteria and Hueppe's "wildseuche" and that of the American swine plague cannot be denied, yet that does not prove the identity of the three diseases by any means.

Hueppe's hypothesis that the "wild" and German "schweineseuche" are identical diseases (and on his grounds the American swine plague also) shows the folly of the "simon-pure" M.Ds

entering upon questions belonging to the veterinary and comparative pathologist, and that an accurate knowledge of the course of such diseases in the hospital and the field is the essential biological point upon which the decision of such questions must depend.

In other words:

Not only must the same germs (apparently) be found in each, but the artificial inoculation of the same animals must produce the same effects, not only in susceptible animals, by inoculation, but the same course of natural infection must occur as occurs under natural conditions.

Because the smaller experimental animals are susceptible to artificial infection does not by any means necessitate that the same animals are also susceptible to natural infection or, rather, are infected under natural conditions.

That is the essential biological condition which constitutes the only quantity by which to decide such questions of identity with regard to micro-organism—*their pathogenic action.* The artificial phenomena induced must correspond in every particular, pathologically, but especially clinically, to those occurring under natural conditions.

Admitting everything Hueppe has claimed for the morpho-biological identity of his "wildseuche" bacterium with that of the German swine plague, which, as said, applies equally to the American, it does not fill the bill for the latter for the above reasons.

Hueppe says that the "wildseuche" attacks cattle, swine and deer under natural conditions, at the same time and in the same locality.

Does the German swine plague?

Does the American swine plague?

Were Hueppe here in Nebraska he could see a large drove of hogs feeding among cattle, the hogs sick with swine plague, many of them soiling the common food of both cattle and hogs with their alvine discharges; all of them lying among the corn husks and hay; the cattle continually eating fodder and corn soiled by the discharges of the diseased pigs, and kicking up a dust full of dessicated germs, and all the animals drinking polluted

water. I can assure him that he can see such cases in which 500 cattle and as many hogs are in the same field and that not an ox or steer will be sick although the hogs may be dying off at the rate of thirty or forty a day. He can also see hens, ducks, geese and turkeys eating the same food and picking over the recently fallen fœces from the diseased swine; he can see these fowl eating the bodies of deceased swine, but he would never see one die from the swine plague or hen cholera on that account.

The above facts completely knock the bottom out of Hueppe's "gruene tisch" argumentation, and sufficiently emphasizes the point I have taken, viz.: *that the identicity of all, apparently morpho-cultivation biological peculiarities in pathogenetic bacteria must be decided finally by one biological quality, viz.—the pathogenetic.*

The same disease must be produced with each and every attribute possessed by the natural diseases from which the germ in question has been procured.

REPORTS OF CASES.

JOTTINGS FROM A CASE BOOK.

By Wm. Frank Smith, M.R.C.V.S. (Lond.)

BLACK-LEG.

Black-leg, quarter-ill, or black layer was for some considerable time confounded with pure anthrax, but recent investigation has demonstrated that though a similar affection it is essentially distinct and one in which the blood contains its own individual organism or microbe. There is no more grievous disease affecting young live stock of the farm, or that is at times so productive of loss to the cattle breeder. Locality to an extent seems to favor its development in having a marked influence on the quality of the food on which such stock is fed; season of the year likewise, and other climatic conditions are important factors in its production: for instance, how often it is found that fall rains with warm days, causing a flush of luxuriant grass, or pastures which are two strong in the spring from a heavy autumn manuring,

or comparatively mild winds will originate the malady almost as soon as the young stock are placed thereon, such being far more marked with some fields than others. Too much heating corn in the winter, feeding or a sudden change from poor to rich diet, are alike important agencies in so acting on the vital fluid as to influence the production of the disorders. In what way the microbe peculiar to this affection gains ingress to the system is even now a matter of speculation, but that bacteria are present in vast numbers in the blood of those which die from the malady is clearly certain, and, further, that they speedily bring about dissolution and its attendant symptoms by rapid reproduction and growth, making war on the red corpuscles for a supply of oxygen, and by their innumerability blocking up the capillary vessels, are points more fully agreed upon. Leaving theories for fuller consideration at some future time, to meet the present demand of the farmer and stock owner, the great aim must be the prevention of the malady, and without doubt the majority of measures suitable for adoption lie in the agriculturists' own hands: in winter by a judicious feeding, sparingly using corn, alternately with hay, and not forgetting to place in the mangers the most necessary rock salt; overcrowding must likewise be avoided and sudden changes in either location or quality of pasture (particularly if rich and luxuriant at both spring and fall) carefully guarded against. Let the best doing animal of the herd be closely watched as he will be the first to go under. In event of an outbreak occurring it is not policy to strip the hide off the dead animal and blood-stain the grass for the sake of the small amount likely to be realized thereby. Not only does it contaminate the pasture, but there is the probability of earth worms appropriating bacteria and casting them up again at some future season amongst the herbage. Better to take the carcass straight away, bury it deep and cover with quick-lime. To the rest of the herd an important change of feeding should take place; in winter for a time give nothing but hay and bran, in summer put for some days on the scantiest pasture and gradually change back, seeing, meanwhile, that they have pure water. A mild aperient dose all around should be given, followed by the use of hyposulphite of soda, care

being taken that each animal has his daily dose, and its administration continued for some weeks if there appears any danger of the others falling down. Also insert a seton tape dressed with some suitable digestive in the dewlap and have it frequently drawn to and fro to keep up an irritation and discharge.

It is only by following closely such a line of treatment that we can hope to eliminate the morbific material accumulating in the blood and again place the young herd on a healthy footing. It is almost yet premature to conjecture on the value of a protective inoculation derived from the intra-venous injection of muscle-juice virus; on thought there is a good deal in it, and experiments made under the auspices of the Royal Agricultural Society of England appear to yield such results as will probably on further pursuit demonstrate it efficacy and practicability. This letter is a special subject of which more anon.

AMPUTATION OF A CAT'S LEG.

It is just possible that amputation of injured limbs, though occasionally practiced in veterinary surgery, are not so often resorted to as might be the case, in order to prolong the life of a favorite pet, or still retain some special strain of blood particularly adapted for breeding purposes. Veterinary records, it is true, furnish us a few successful instances, but it is unhesitatingly asserted such might be further increased, did but the majority of practitioners still continue to study their anatomy after college days are past, and apply the same more fully in the every day routine of business. Fractured limbs I have had to treat in great numbers, some successfully, in others—from peculiarity or nature of fracture, excitability or like disposition, or age of the patient—with a contrary effect, but the only case in which amputation was called for yielded such an excellent result as to induce me to place it on record. During the time I was managing assistant to Professor Pritchard, the great veterinary pathologist of London, in his absence I was consulted by a gentleman in regard to a large favorite long-haired cat which unfortunately had its leg injured in a trap. I found the limb—the left fore—from above the carpus downwards to be completely smashed, discharging an offensive matter which clotted in with the hair, and apparently

mortifying away. The injury had then been inflicted about a fortnight; the cat seemed in great pain, in consequence of the gangrenous state of the limb, was very feverish, and had wasted considerably. After a careful examination I concluded that nothing short of amputating the limb would save the animal's life. Accordingly next day, aided by an assistant, I placed the cat under chloroform and proceeded to operate, firstly placing a torniquet tightly round the limb immediately under the elbow joint. Half an inch above the fracture, on both inside and outside of the radius, I passed a scalpel, cutting outwards, and downwards, dividing all structures from the bones outwards and then with a fine small saw completed the amputation. I next ligatured the radial artery, wrapped the severed ends of muscles over the stumps of bones left and finished my operation by approximating the edges of skin over the lot and there maintaining them with two sutures. A dash of cold water then revive the patient and he was kept in close quarters with light food for three or four days. At the end of that time I examined the stump of limb, found that healing of a healthy nature was taking place and removed the sutures. The cat was then allowed to roam about as he pleased and speedily accommodated himself to progression on three legs. I troubled no more with the case for some weeks, when I found sound healing had quite taken place, leaving only a small cicatrix where the skin had been sutured over the stump. The cat had again got very fat, trotted about the house with no difficulty and had been even attempting to catch mice.

AN INTERESTING CASE.

By W. P. Robins, V.S.

I take the liberty of again sending you an interesting case which occurred in my practice here and which may be instructive.

About a month ago I was called by telegram to a small town west of this place to see a horse, which I found had been suffering from an unaccountable malady for nearly two days. The first

symptom noticed by the owner was observed after the horse, an old bay mare, had eaten a little of her feed with her usual appetite, when she suddenly stopped eating and refused water. A few hours after that she commenced vomiting; there was considerable retching and about a teacupful of healthy pus was raised several times in succession. The pus was creamy, not bad smelling, but streaked with a very little blood and accompanied by a very little chewed up hay and oats. Next day the vomiting had disappeared, but still the animal could not drink, although she tried frequently. It was the next morning I saw her. Her flanks were drawn up and hollow; tried to eat a mouthful of hay but swallowing gave great pain and she took a drink of water which was followed by violent retching and the return of the water and hay and a little clear mucous *through the mouth.* The œsophagus was much swollen and somewhat tender. I observed two or three "horse doctor books" lying about and a full compliment of blacksmiths and livery men, so enquired what had beeen given to the mare, and was told "Only a little kerosene; I thought it might kind of oil up the swallowing part." Kerosene had also been applied on the outside of the neck. I diagnosed abscess of the cardiac end of stomach resulting in œsophagitis. I administered half drachm doses of bellad. s. ext. and had the neck bathed with warm water every hour, followed by a liniment of camph., aconite, chloroform and alcohol. In two hours the swelling appeared to decrease and the animal was much easier. Next day she took a little soft feed, in two days more she was eating full rations, but was kept on the soft feed for a week when she was, apparently, completely cured.

REPRINTS FROM BRITISH AND AMERICAN JOURNALS.

OSTEOPOROSIS.

By J. A. Smith, M.R.C.V.S.

The following short history of a case of osteoporosis may prove of interest as being, I believe, the first recorded in this

country. The subject was a thoroughbred brown Australian gelding, by "Gondalier" out of "Touchstone" mare, imported in August, 1883, from Gippsland, Victoria, where he was bred. He was admitted into hospital on the 7th February of this year, aged seven years off.

The symptoms at first exhibited were as follows: sudden and extreme lameness in the near fore leg, which within twenty-four hours extended to the off fore. A careful examination revealed nothing to account for this, beyond a slight tenderness about the fetlock joints. There was no swelling and no perceptible heat, the internal temperature being also normal. At this stage I diagnosed the case as a rheumatoid affection of the joints and treated accordingly. Fomentations afforded marked relief, and the animal gradually improved, until on the 27th of February he was able to perform a fair trot, when his owner removed him to his own stable. On the 9th of March I was again asked to see him, as his "head had become swollen" and he was "off his feed" (his appetite had previously been good). It was now an unmistakable case of "osteoporosis." The raim of the lower jaw were thickened and tender when touched. The face had an undefined and rounded appearance and the incisor teeth were quite loose. The lameness had entirely disappeared. I recommended the owner to have him destroyed and this was carried out on the 17th of March by pithing. The fore legs were carefully examined to discover the cause of the severe lameness previously mentioned, but without result, he bones appearing quite healthy and free from disease; the bones of the skull alone being implicated.

The horse since his arrival had been staying with a large number of others at Ballyguage, the food and general conditions under which they lived being precisely similar.

It would seem that the disease in this case was entirely due to some original inherent influence interfering with the nutrition of the bone tissue. Diet and surroundings would appear to have had little to do with it and the animal's parentage seems good enough to controvert any suggestion of hereditary predisposition. —(*Quart. Jour. Veterinary Science in India.*)

INTERNAL HÆMORRHAGE FROM CASTRATION AS A CAUSE OF DEATH.

By J. H. Steel, V.S.

One of a number of cast ponies (castrated, under orders, before sale to the public as quite unfit for army transport) had been operated on by the scraping method, by one of the senior students of the Army Veterinary School; several beds were "going" simultaneously under my supervision, so I did not observe if this animal was "scraped" with sufficient deliberation or if undue tension was put on the cords. He seemed to receive exactly the same attention as the other fifteen castrated on this bed on the same morning. The operator, an artillery shoeing-smith, had frequently castrated before. In three hours time the little animal was reported dead. There had been no external hemorrhage and he had shown no signs of discomfort sufficient to attract the attention of the European Warrant Officer in charge, an experienced transport official. As the ponies of this transport had been dying suddenly from Surra, the pony was considered possibly a victim to that insidious disease; however, a post-mortem examination showed the peritoneal sac occupied by a recent blood colt moulded into form as it were by the abdominal viscera. The cords seemed quite healthy, but one of them had been cut off too short.

Remarks. Although cases of external hemorrhage are not at all rare, I have no previous record of internal hemorrhage following castration quite unaccompanied by any external indication of blood-flow. The actual loss of blood here was inconsiderable (unless much had been re-absorbed before post-mortem examination), quite insufficient to have caused death had it escaped externally. —(*Ibid.*)

COMPLICATED SPLENIC DISORDERS.

By Sorabji K. Nariman, B.Sc., L.M. and S.

A gray entire ghari horse, much overworked and in extreme poor condition, the result of obscure disease of long standing. The animal was admitted on the 12th of October, 1886, a little off feed, with fever and occasional cough. Pulse weak and about

50 per minute; ribs prominent, and intercostal muscles drawn in or atrophied; respiration frequent. Auscultation showed harsh sound at bases of the lungs. Temperature 100° F. Received a tonic ball 13th. Pulse 56, weak—cough slight; temperature int. 102° F. Tonic dose 14th. Eats less, no lesions detectible on examination of the mouth—temperature 100–8° F. Tonic 15th. Almost constantly lies down; very depressed; eats very little food; pulse very weak and frequent; a stimulent given. Early in the morning of the 16th was found scarcely able to rise. Died at 8:30 A. M. Autopsy, about two hours after death, showed the liver twenty-two pounds in weight, studded throughout with grithy particles varying in size from a pin's point to a small pea, here and there a small amount of lymph of a bright green mottled color on the surface-section. Omentum enormously congested. Stomach much congested throughout its villous portion and having the remains of one parasite cyst. Gastro-splenic omentum a perfect mass of small abscesses; spleen nineteen and one-half pounds in weight, perfectly full of abscesses except at its base, edges and apex. Heart, weight seventy-three pounds, its substance very fatty, an extensive collection of rather solid looking gelatinous lymph and blood in the furrows. Considerable extravasation beneath the endocardium of the left side and very slightly of the right. Lungs congested throughout the posterior two-thirds. Emphysema at the margin of the left lung. Here and there a considerable deposit of lymph in the substance of the pleuro-pulmonalis, a few round gretty particles in the lung substance like those found in the liver. There was a considerable amount of yellow fluid in the cavity of the belly and a great deal of recent lymph on those parts of the bowels which lie against the spleen. —*(Ibid.)*

CHRONIC LIVER DISEASE.

By Sorabji K. Nariman, B.Sc., L.M. and S.

The patient, a bay entire ghari horse, was admitted into hospital on the 3d of July, 1886, with œdema of all four legs and tenderness of the frogs. Visible mucous membranes congested

and with slight yellowish tinge; pulse frequent and weak. Nitre and sal ammoniac in four drachm doses given in drink. Frogs dressed with carbolized tar. Patient at first improved somewhat but the œdema did not subside. He then became much weaker. On the 26th he was very feverish and refused his feed; temperature 100–8°; pulse 65; visible mucous membrane yellowish. The symptoms became less marked on the following day and under the influence of extra exercise, laxative diet, and "liver balls," a relapse took place on the 28th. Temperature, 101–8° F.; pulse 48; respiration 36, hurried and short; febrifuge medicine with tonics given. On the 30th the temperature rose to 103–5°; pulse 54; he lay down a good deal this day and at times seemed restless. Breathing very quick. On the 31st the patient seemed too weak to walk, but took food well; temperature 102–5°F.; pulse 60; at 12:30 noon, he fell and was unable to rise; at 1 P. M. he vomited. At 2 P. M. he rose; there was noticed much froth at his mouth, the urine trickled from him drop by drop; the abdomen seemed very full, especially the gastric region. He lay down again and showed symptoms of not very acute abdominal pain. At 2:30 P. M. there was twitching of the voluntary muscles, he perspired profusely, head hung down, anxious appearance, action of the heart extremely violent, urine trickling drop by drop from the penis, which was somewhat protruded.

A draught of water caused more labored breathing with slight expulsion of gas per anum. Opiates and other anti-spasmodics enemata, and mustard applications were freely resorted to throughout the case. Rupture of the stomach was diagnosed. Exploration per rectum failed to detect any abnormality and the bladder was not full, but a small amount of urine was expelled on pressure over the organ. At first the bowel was found dilated and a small amount of soft fæces was removed; later it was forcibly contracted and a little blood remained on the fingers on withdrawal. The animal lay down during this latter exploration and expelled a little gas after the passage of the dung. Pulse more distinct but very quick. Extremities warm. At 6 P. M. extremities cold, patient down, extremely restless, bathed in perspiration with most extraordinary dilatation of the superficial veins. Opi-

ates continued, to save the animal as much pain as possible. 9 P. M. tried to get up but each time fell down again; breathing very quick and labored. 10 P. M., died, after a short struggle. Autopsy (12 hours afterwards) showed blood clots in the heart; lungs congested, especially at their bases; stomach large, full of food, no rupture of its walls; bowels slightly congested in parts; spleen normal. Liver of enormous size and in a state of fatty degeneration. Other organs healthy.

Remarks.—A most unsatisfactory post-mortem. Quite insufficient to explain the symptoms. It is considered the vomition must have depended on gastric dilatation with extreme expansion of the cardia. There could be no mistake as to expulsion of food material through the nostrils. In so advanced a disease of the liver it is most extraordinary that the spleen showed no traces whatever of enlargement or disease.—(*Ibid.*)

HÆMATOCELE.

By T. Marriott, V.S.

A chestnut, entire, Persian horse, 4 years old, disembarked from the B. I. S. S. "Pemba" late on the previous evening apparently suffering from scrotal hernia.

Examination per rectum revealed both inguinal rings to be clear, and on manipulation of the scrotum a quantity of fluid was detected. The animal appeared very stiff and could scarcely walk, so evacuation of the fluid became imperative. Puncture of the right sac with a fine needle allowed the escape of a little decomposed blood, and on enlarging the orifice eight ounces of coagulated blood, very dark colored and mixed with serum, escaped. Antiseptic dressing was applied and rapid recovery followed.

December 6th. Animal going sound, swelling had subsided, leaving a little induration of the scrotal tunics, which disappeared before he was sent to his regiment, and the right testicle had become so atrophied that only a mere trace of it could be detected. This I think proves that the hæmorrhage was from the testicle, probably due to an injury on board ship.—(*Ibidem.*)

COMPOUND FRACTURE OF THE NEAR TIBIA OF A WALER MARE IN D/2 ROYAL ARTILLERY, AHMEDABAD.

By J. A. Meredith, V.S., A.V.D.

The history of the case, as follows, was given by the sergeant farrier of the battery, 12th of June, 1887.

Wound contused, the result of a kick from another horse after watering parade, and during the act of securing the animal in the lines. The blow was heard a distance of sixty yards. On the following day the mare was exceedingly lame, leg swollen, great pain. Treatment; fomentations and astringent lotion. Up to 18th, the treatment was continued, unable to bear any weight upon the limb. 26th, I had but recently arrived from Quetta to Deesa and making my first bi-monthly inspection to Ahmedabad, on this day I examined the mare for the first time and came to the conclusion that the injury was extensive, and that a fracture existed, but was of opinion that recovery was not impossible. I had the mare placed in slings, and applied a starch bandage to the leg, taking care to keep the wound free from the bandage. The off hind limb was very much enlarged from bearing the weight. Pulse 58, temperature 99–8°. Respiration, little excited. Next day she looked cheerful, temperature normal and pulse 54, eating fairly well, bowels regular.

The mare appeared to be in a fair way toward recovery. 29th.—Considered her in such a condition that I returned to Deesa, having left instructions to keep the mare in slings, give plenty of green food and for the administration of salines daily. 30th.—The sergeant-farrier's record of the case continues thus:—Pulse 54, temperature 99.6°. 2d July—Pulse 56, temperature 100°; galls being severe from slings, she was removed therefrom and allowed to remain down 15 hours. Pulse 60, temperature 100°, eating little, no improvement took place and on the 8th she, being much about the same, was allowed to remain down instead of placing her in slings. The bed sores increased and the mare appeared worse, elevation of temperature and pulse, refuses food, so on the 13th I was again telegraphed for. 14th.—I arrived and having examined the mare, found her much worse, feverish, re-

fusing food, limb very much enlarged, pulse 95, temperature 102.2°. I considered the case hopeless but repeated doses of tinc. aconite (Fleming). 10 miniums were given. 15th.—Exhibiting great pain, mare worse, sedatives continued. 16th.—Mare sinking fast; applied for a station board to assemble and they considered the mare should be destroyed, which was done at once, at 2 P. M.

Post-mortem.—The internal organs healthy; the near tibia was fractured for near 10 inches, running in a longitudinal direction from two inches above the seat of injury and finally with dividing posteriorly, great deposit of permanent callus up to line of fracture. [This specimen as presented to the Museum of the Bombay Veterinary College by Mr. Meredith, is the most remarkable one of fracture of tibia we have ever seen; a spiral crack runs round a considerable part of the bone, and callus has been thrown out everywhere over the surface (where the pericosteum extends) of ejection as sequestra, but had cure occurred the tibia must have remained enormously and permanently thickened.]—(*Ibidem.*)

UNUSUAL RESULTS OF CASTRATION.

By V. S. Gerald H. Fenton, F.R.V.S.. Army Veterinary Dept., Kamptee, India.

From the peculiar circumstances which have occurred during the past three months in the cases of some recently castrated horses, I am induced to record the same, never having experienced these conditions in my practice before these cases happened in the 4th "P. W. O." Madras Light Cavalry, amongst the Persian remounts, 145 of which have been castrated here, an unusually large number for one regiment. I am particularly referring to laminitis as a peculiar sequel of castration. About twenty-five out of this number, after being castrated from five to ten days, were reported as not being able to take their usual gentle exercise owing to fever in the feet. These symptoms varied very much in intensity in the different cases. In some instances both fore feet were affected and not the hind; in others one fore, and in the

worst form, all four feet, and to such a degree that the poor animals could not stand up. The symptoms, however, in several cases did not last more than five days, when the patients were able to resume their exercise. The usual treatment of poultices and wet swabs in the less severe cases was adopted; in the serious cases, when the patients could not stand, an addition to the above treatment, refrigerating lotions of an evaporating nature were applied to the limbs with very much benefit; there were no bad results after these cases.

The next case is one of peritonitis, which is not at all unusual as an after effect of castration; but in this instance it was surprising to say the least of it. I herewith quote the case:

PERITONITIS.—The patient is a remount, and was castrated nine days ago, and progressing most favorably. The animal went through his food the evening previous, and showed no signs or symptoms of sickness of any sort; but at 5:30 A. M. he laid down, struggled for a few minutes and died. No treatment. Post-mortem revealed most extensive peritonitis, visceral and parietal, and extending to the pleura in thoracic cavity. There was about one gallon and a half of fluid in the abdominal cavity, which no doubt prevented the usual symptoms of peritonitis being observed. There was lymphadenoma of the spleen well marked; the right ventricle of the heart was gorged with tar-like blood. Lungs and kidneys healthy. Discharged; died.

The following case, also taken from the record of treatment, is worthy of note, there being no cases of paralysis, general or local, in the horses of the regiment. At the same time, I do not wish it to be inferred that I am positively stating that the castration had anything to do with it; but there the fact remains, that the paralysis appeared without any traceable cause, and as paralysis is a nervous affection, there is no reason in my mind why it should not occur as a sequel in the same manner as tetanus, mysterious though it may be.

March 16th, 1887, PARALYSIS, local, (labiæ).—The patient was recovering from castration, and almost fit to be discharged, when the lips were noticed to be in a pendulous condition, and he was with difficulty able to feed, although appetite very good. Inject

liq. strychniæ above upper lip, and give liq. strychniæ ʒ ii, aqua ʒ iv, in a draught twice a day, and plenty of sloppy diet.

March 20th, the lips are more pendulent, and the patient is quite unable to feed without assistance, the food being put into his mouth. He seems much distressed. Continue the draught and assist the animal as much as possible by continued small feeds.

March 25th, no improvement, and the animal is getting weaker and weaker. Try the galvanic battery three or four times a day locally.

March 27th, treatment of no avail. Patient rapidly losing. Give tonics and stimulants three times a day.

April 1st, the patient weaker. Prognosis unfavorable; continue treatment.

April 11th, worse. All the tonic, stimulent, and nursing treatment of no avail; can do no more. Apply for a special casting committee to have him destroyed.

April 12th, the patient died before the committee was convened. Post-mortem revealed all organs healthy, but very anæmic. Discharged; died.—(*Ibidem.*)

FRACTURE OF RADIUS IN A BROOD-MARE—AMPUTATION AND RECOVERY.

By Prof. R. S. Huidekoper, M.D., V.S.

On April 3rd I was called to the country to see a brood-mare with a fractured forearm, and found the following interesting case, which demonstrates the fallacy of the rapid unfavorable prognosis and slaughter which usually takes place when a valuable breeding animal breaks its leg. April 3rd, 11 P. M., gray mare, 15–1, 10 years old, within six weeks of foaling, having been covered in June last by a valuable horse. The mare had been turned into the barn-yard the morning before, and was found in a half hour with a fractured forearm. She was standing in rude slings, which pressed too much on the abdomen, and rendered her very uncomfortable. The off front leg was encased in a splint which had been admirably applied by the family physician. On removing the splint I found a compound comminu-

ted fracture of the lower end of the radius. The leg was considerably swollen and very painful. On attempting to examine the fracture the mare reared, dropped backward from the slings on to her sound side, from which it was impossible to raise her, as all but one attendant declined positively to see the animal suffer. I reapplied the splint, and early the following morning reported to the owner that the only possible means of saving the foal would be amputation. April 4th, 8 A. M.—Mare on near side, nervous and suffering greatly; has been sweating constantly through the night. Straining somewhat, but movements of fœtus can be felt. Hobbled hind legs and near (under) foreleg with ordinary barn rope: had head restrained by bridle and twitch. Made rapid circular operation in middle of forearm, cutting the skin and subcutaneous tissue in first sweep, the superficial layer muscles in second, and with the third, cut the deeper muscles to the bone, sawed the bone with a saw borrowed from the farm kitchen, which was previously flamed to cleanse it. Was only obliged to ligate the anterior and posterior radial arteries, the remaining hæmorrhage answering promptly to cold water rendered antiseptic by the addition of a small quantity of bichloride of mercury. United soft parts by two deep sutures leaving drainage at corners. Lifted mare to her feet and placed a loose narrow sling under thorax. In an hour the mare had cooled from her sweating, was much less nervous, and ate a handful of oats, drank water and picked at a bundle of hay. A great deal of trembling continued in the near foreleg from the strain imposed upon it, as the animal declined to give herself much support from the hind legs. Left orders that the slings should be removed at night and the mare turned loose in her box stall. During the following three weeks the animal was let down at night, and supported with slings in the day time. Once or twice she was allowed to remain on her side for more than a day, and swelled a good deal in the mammæ and gentils.

April 24th, 10 P. M.—Found wound almost healed, but muscles considerably contracted, allowing protrusion of bone which is, however, covered with a dense fibrous tissue. Find that animal has been constantly in slings during the day time, and

that she depends on them, throwing the entire weight of the anterior part of the body into the canvas, instead of using her leg. Find also that she has given great trouble in having to be lifted to her feet each morning. Removed slings, in which mare was falling asleep. After several attempts she got down, showing, however, a great deal of caution for the amputated leg. In a few moments she was sound asleep.

April 25th.—Animal on side, bright; lifted head on our entrance into the stall, got herself ready to be lifted up, but refused to give any aid. Placed a bridle on her, struck her suddenly with a whip and she got up without aid. Walked her into barnyard and turned her loose. On May 1st she foaled without trouble, and is now at pasture with a healthy foal beside her. Before foaling the mare used her hind legs but little for support, but since she no longer has to protect the abdomen, she has assumed more the gait of a foundered horse. The long stump of bone was obligatory on account of the awkward saw, which was the only one on hand; constant irrigation was not possible, but the animal received frequent bathing and excellent nursing.

In the above case the pregnancy proved a serious complication, but the animal fortunately had great courage. In future cases, I would advise but little use of slings, as the animal should learn to depend upon itself at once. In the case of a valuable breeding animal, amputation is certainly no more serious than a severe quittor or pricked foot.—(*Jour. of Com. Med.*)

MELANOSIS IN A BULLOCK.

By E. Wallis Hoare, M.R.C.V.S., Cork.

The subject was a three-year-old bullock, color brown, marked with white, rather poor in condition, presenting a large tumor surrounding the base of the ear, which the owner requested me to remove. The history given was, that about a year ago a small enlargement was noticed in this region, which gradually increased in size until it attained its present enormous proportions. The tumor was round in shape, and its base was narrow in comparison to its size, but quite broad enough to give suspicions of a large

vascular supply. It was hard and firm in consistence, except at its extreme lower part, which was becoming soft and very fœtid. The animal was cast, and as the base of the tumor was too broad and tough for excision by the chain ecraseur, and a wire one not being at hand, it was dissected out with a scalpel, and the hæmorrhage from the external smaller blood-vessels arrested by the actual cautery; and, as the ear was completely involved in the diseased process, it was necessary to remove that organ in connection with the tumor.

In the center of the tumor some very large blood-vessels were found, which required the application of the ligature, and, as proper assistance was not at hand, this was no easy matter.

The tumor, when removed, weighed 30 lbs., and on being cut into, was very firm in consistence, except at its lower part, which was soft, and from which a quantity of dark colored fœtid fluid escaped.

The color of the tumor was deep black, and on section a marbled appearance was presented. Portions placed in water in a very short time colored it a deep black. The case up to the present is doing well, and as there are no other external manifestations of the disease, and the animal appears healthy in other respects, there is a chance of the operation being successful, but the recurrent nature of this affection makes its treatment unsatisfactory. I may state that the wound was dressed with antiseptic dressings, in the ordinary manner. A portion of the tumor was forwarded to Professor Williams, New Veterinary College, Edinburgh, who kindly examined it microscopically and pronounced it to be melanosis.—(*Vet. Journal.*)

A CASE OF EXTENSIVE RUPTURE OF THE ŒSOPHAGUS.

By James B. Gresswell, Louth, Author of the Manual of the Theory and Practice of Equine Medicine, Etc.

Quite recently in the evening I was called by a well-known breeder of short-horned stock to see a valuable heifer, belonging to a superior breed. The animal had been observed by the attendants to be choking in the afternoon about 2 P. M. The

owner's son, seeing the predicament in which the animal was, then had the boldness to pass the probang.

I arrived on the farm at 9.30 P. M., and the most prominent feature which at once attracted my attention was the enormous tympany of the rumen. The pulse was not more than 78 per minute; the respirations were labored, varying in number in successive minutes. The animal occasionally grunted and showed signs of acute pain. On the near side I observed great swelling of the neck. The owner's son, on being questioned as to whether he had experienced any difficulty in passing the probang, replied in the negative, and added that the animal had since swallowed oil. I diagnosed the swelling as being due to laceration of the œsophageal walls, and fomentations were accordingly applied to the swollen parts. A fine trochar was passed into the rumen, and the gaseous matter drawn off. The relief was immediate, and up to 2.30 A. M. the animal did well, when it suddenly fell dead without a groan. I should add that the animal had taken small quantities of water in addition to the oil, after the probang was passed.

On the next day a careful post-mortem examination revealed an extensive rupture of the œsophagus nine inches in length; the walls were seen to be infiltrated with a gelatanoid exudate, and there was also much material effused into the tissues of the neck.—(*Veterinarian.*)

CORRESPONDENCE.

A FAITHFUL TRANSCRIPTION.

To the Editor of the Veterinary Review:

In perusing the *American Veterinary Review* for July, I was fairly puzzled when I came to page 170, on which begins an article on "The Veterinarian as a Member of Society," by D. P. Yonkerman, of Cleveland, Ohio. I was certain I had read something like it before—nay, that it was more than usually familiar to me. Being from home at the time, I could not assure myself

as to the paternity of the different paragraphs and sentences, nor exactly as to where I should find them in my library on my return home.

I have now to acknowledge the honor Mr. Yonkerman has done me in making a most faithful transcript from Vol. I. of my "Veterinary Sanitary Science and Police" of those portions which go to make up his "member of society"; though in that work these portions do not all follow in the sequence in which he presents them to your readers. They are somewhat promiscuously selected, but they will all be found on the following pages of the work, if anyone is desirous of ascertaining how exactly they are copied, viz.: pp. 1, 19, 21, 23–24, 193–195, 297, 299–303.

There is only one oversight which the writer may be charged with in compiling his article: he has omitted to give the title of the work which he has so usefully consulted. That omission, I hope, this allusion to it may repair.

Yours truly, GEORGE FLEMING.

LONDON, August 2d.

VETERINARY LEGISLATION.

Editor Review:

For the last two years or more many of the pages of the REVIEW have been devoted to the subject of Veterinary Protection and Legislation, not only here but in England as well.

While it has been quite entertaining, it is not at all instructive. It looks to me as though a few wanted to get a little cheap notoriety by being brought prominently before the public as promoters of this protection and legislation.

I would like to ask what the profession wants of protection. Is it to protect a few men who have attended this or that institution, that teaches veterinary medicine, grants diplomas to men who pass an examination, etc.?

They want to be protected by legislation, so that Mr. Jones, who has not attended such an institution, cannot practice.

It seems to me the best way for the so-called Regulars to protect themselves is to show by their ability and skill that they

are superior to the so-called Irregulars, who are practicing without the highly prized diploma; then they will be protected by their own ability.

I would like to ask if there are not as good practitioners and operators that have no diplomas as there are that have.

I think the way for the so-called Regulars, no matter from what school, country or college, either from this side or the other of the Atlantic, to protect themselves is by being united, and not try to hurt a brother practitioner that is in the same town or city with him. Protect each other by lending a helping hand, if need be, and not give each other a back cut whenever the opportunity occurs.

Every man has his opinion and a right to express it, so long as it is not detrimental to his neighbors. We do not all think alike.

Is it not better to have no legislation at all than to have a law by which any hostler, groom, coachman or blacksmith can register and be on an equal footing with your honored self, so far as the law is concerned?

This leads to another question, that of the curriculum of study in the different schools not being of a uniform standard. Will it ever be so?

I do not believe it ever will, as most of the schools, so far as I know, are private ventures, though they may be connected with some high toned university—and as such, every one tries to get out the most students and graduates. What is the result? that in order to make it a paying investment the curriculum is shortened, and out of the list of graduates turned out many of them cannot apply a bandage on a horse's leg.

One of these graduates settles in a town where a so-called quack has been for years; this quack is a man of close observation, long experience, a student well posted in veterinary and medical literature, a good practitioner and as a man above reproach and of good character. The graduate, after getting settled in his office, first of all goes to work to impress on the public mind that Mr. Quack is a quack; then he looks to the Legislature for protection, to prevent Mr. Q. from earning his living. Now,

why, if he is so much superior to this quack, does he want protection?

It has been my good fortune to have several such quacks for my personal friends, and I do not know if I would not wish that we had more of their kind amongst us.

I believe too much is thought of in the word regular. Instead of depending on legislation, let us confine ourselves to the legitimate practice of our profession, let us avoid jockeyism, horse dealings, etc., let us remember that all the various duties of the veterinarian are duties of trust in every sense of the word, let us be honest and true in the performance of the same, let us avoid petty jealousies and treat each other in the most professional and brotherly manner possible, and then we can be sure that we will want no legislative protection; we can be certain that the public itself will protect and soon recognize us as worthy members of a profession second to none.

C. H. PEABODY, D.V.S.

PRACTICE FOR SALE.

CONNELLSVILLE, PA., Aug. 22d, 1887.

Mr. Editor:—I have made up my mind to go West on account of my health, and will dispose of my practice and instruments, also a very fine match driving team with good rigs. The practice is worth $2,000 to $2,500 per year. No opposition. Center of the coke region. Will sell out entire and recommend a good man, for $1,500 cash. Anyone wishing to purchase can examine books and stock. Team cheap at $500. If you know of anyone that can fill the place and has the cash, I will be obliged to you for the information.

Yours respectfully, E. LANSFORD.

INQUIRY AS TO AN ADVERTISEMENT.

[The following has been received in answer to the advertisement issued in August number. The advertiser will please notice and answer.—ED.]

MAYNARD'S STABLES, BOWDOIN SQUARE,
BOSTON, Sept. 8, 1887.

SIR:—Having seen your advertisement in the AMERICAN VET-

ERINARY REVIEW, shall be glad if you will give me full particulars of practice, etc., amount of purchase money, and what introduction will be given.

Yours faithfully,

W. H. BARTRUM, M.R.C.V.S.L.

REVIEW.

FARMER'S VETERINARY ADVISER. By Prof. JAMES LAW, of Cornell University. Eighth Edition. Published by the Author. Ithaca, N. Y.

It is but a few years since Prof. Law issued under the form of a small book his *Veterinary Adviser*, and to-day we have the pleasure to notice the eighth edition of the same work, revised and considerably enlarged. This fact is of itself sufficient evidence of the appreciation of the work by the public at large, and we have no doubt also by the veterinary profession, and of its importance as a book of great value to those for whom it is written.

This last edition contains much added material, and amongst all the new written pages is Chapter 11, where under the modest title of Contagious and Epizootic Diseases, is found a short work on bacteriology and on the *to-day* interesting success of prophylaxy by inoculation.

The subject of parasitic diseases, of skin affections, with those of the various apparatuses of the body, including those of the functions of locomotion, are treated more extensively than in previous editions, and the special addition of the long article on contagious pleuro-pneumonia with which the author is so familiar, all undoubtedly contribute to render the *Adviser* a most valuable work to the farmer, to the veterinary student and to the busy practitioner.

THE REINS AND THE WHIP.

We have received a copy of the new monthly and we are well pleased with its appearance. It is a large illustrated magazine which intends to give general information to all those that are interested in horses and dogs. This number contains some excellent illustrations and the reading of the various articles is quite interesting. We wish *Reins and Whip* good success.